Intra-segmental timing in sound change /aw/ in Philadelphia

Intro
Philadelphia (Labov et al 2013)
- /aw/ raising and fronting before 1900
- /aw/ lowering and backing after 1950

Date of birth

Formant Trajectories
Have been investigated with generation as a categorical variable. (Jacewicz, Fox & Salmons 2011)
- Wholistic measures compared against continuous variables. (Rudal & Kohn 2014)
- With GAMs, it is possible to model trajectories against continuous variables. (Wood 2006)

Methods
Data
Philadelphia Neighborhood Corpus
19,517 tokens of pre-oral /aw/
279 white speakers

Modelling
Generalized additive models & tensor product smoothes

Predictors
- All non-linear effects and interactions between
  - gender
  - log2(duration)
  - - date of birth
  - - measurement point

Predictor (dob)

F1 (hz)

References
- NMR Aligner and Tensor Extractions. 2.2.2. https://dx.doi.org/10.5281/zenodo.21175